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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/963,960	09/25/2001	Thomas Burkhardt	020431.0947	1567
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i2 TECHNOLOGIES US, INC. ONE i2 PLACE, 11701 LUNA ROAD DALLAS, TX 75234			EXAMINER DESHPANDE, KALYAN K	
			ART UNIT 3623	PAPER NUMBER

DATE MAILED: 03/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/963,960	Applicant(s) BURKHARDT ET AL.	
	Examiner Kalyan K. Deshpande	Art Unit 3623	

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 8, 17 and 26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-16, 18-25, 27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Introduction

1. The following is a final office action in response to the communications received on January 20, 2002. Claims 1-27 are now pending in this application. Claims 1-3, 6-7, 9-12, 14-16, 18-21, 23-25, and 27 have been amended. Claims 8, 17, and 26 have been cancelled.

Response to Amendment

2. Examiner acknowledges Applicant's amendments to claims 1-3, 6-7, 9-12, 14-16, 18-21, 23-25, and 27. Examiner acknowledges Applicant's cancellation of claims 8, 17, and 26. Examiner withdraws the 102(a) rejections and asserts 112 (2nd paragraph), 101, and 103(a) rejections.

Response to Arguments

3. Applicant's arguments filed January 20, 2006 with respect to claims 1-2, 4, 6, 7, 9-11, 13, 15, 16, 18-20, 22, 24, 25, and 27 have been considered but are moot in view of the new ground(s) of rejection as necessitated due to amendment.

Applicant's arguments filed January 20, 2006 with respect to claims 3, 5, 6, 12, 14, 15, 21, 23, and 24 have been fully considered but they are not persuasive. Applicant argues i.) the limitation "the number of distributed sub-problems and database partitions equal to three" is not obvious over *Jameson* and ii.) the limitation "at least one processor is operable to assign a CLUSTER_ID to each item of said plurality of related items" is not obvious over *Jameson*.

In response to Applicant's argument the limitation "the number of distributed sub-problems and database partitions equal to three" is not obvious as per claims 3, 12, and 21, Examiner respectfully disagrees. Applicant makes general assertions and allegations of patentability, but does not provide any support for these assertions and allegations. The specific example taught by Jameson has four sub-problems and database partitions. The three sub-problems recited by this invention is contained within the four taught by Jameson. In other words, 4 sub-problems and database partitions include 3 sub-problems. Further, Jameson teaches the number of sub-problems is equal to the number of scenarios to be introduced to the planning problem. Thus, the Jameson system can have three scenarios resulting in three sub-problems for a given planning problem. It would have been obvious, at the time of the invention, to one of ordinary skill in art to introduce three scenarios to the Jameson system to have the number of sub-problems and database partitions equal to three.

In response to Applicant's argument the limitation "at least one processor is operable to assign a CLUSTER_ID to each item of said plurality of related items" is not obvious as per claims 5, 14, and 23, Examiner respectfully disagrees. Applicant makes general asserts and allegations of patentability, but does not provide any support for these assertions and allegations. The step of storing a cluster automatically gives it a CLUSTER_ID in a database row. The advantage of assigning an identification value to items stored in a database is that the item and its respective row can be more efficiently found in the database by simply querying the database for the assigned identification value. It would have been obvious, at the time of the invention, for one of ordinary skill

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in data management to assign an identification value to the clusters stored in Jameson's system in order to more efficiently find the clusters and their stored results.

Examiner further notes the following discussion of Official Notice taken from the MPEP:

To adequately traverse such a finding, an applicant must specifically point out the supposed errors in the examiner's action, which would include stating why the noticed fact is not considered to be common knowledge or well-known in the art. See 37 CFR 1.111(b). See also *Chevenard*, 139 F.2d at 713, 60 USPQ at 241 ("[I]n the absence of any demand by appellant for the examiner to produce authority for his statement, we will not consider this contention."). A general allegation that the claims define a patentable invention without any reference to the examiner's assertion of official notice would be inadequate. If applicant adequately traverses the examiner's assertion of official notice, the examiner must provide documentary evidence in the next Office action if the rejection is to be maintained. See 37 CFR 1.104(c)(2). See also *Zurko*, 258 F.3d at 1386, 59 USPQ2d at 1697 ("[T]he Board [or examiner] must point to some concrete evidence in the record in support of these findings" to satisfy the substantial evidence test). If the examiner is relying on personal knowledge to support the finding of what is known in the art, the examiner must provide an affidavit or declaration setting forth specific factual statements and explanation to support the finding. See 37 CFR 1.104(d)(2). If applicant does not traverse the examiner's assertion of official notice or applicant's traverse is not adequate, the examiner should clearly indicate in the next Office action that the common knowledge or well-known in the art statement is taken to be admitted prior art because applicant either failed to traverse the examiner's assertion of official notice or that the traverse was inadequate. If the traverse was inadequate, the examiner should include an explanation as to why it was inadequate. (MPEP § 2144.03(C))

First, Applicant has not "specifically point[ed] out the supposed errors in the examiner's action, which would include stating why the noticed fact is not considered to be common knowledge or well-known in the art." Applicant's broad request for references to support Examiner's statements of Official Notice amounts to nothing more than an unsupported challenge. For these reasons, assigning an identification value to a record is taken to be admitted prior art because Applicant's traversal was inadequate.

Claim Rejections - 35 USC § 112

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4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 6, 15, and 24 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "as close to equal as possible" in claims 6, 15, and 24 is a relative term which renders the claim indefinite. The term "as close to equal as possible" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 1-7, 9-16, 18-25, and 27 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claimed invention is required to produce a useful, concrete, and tangible real-world result. An invention that fails to produce a tangible result is one that involves no more than the manipulation of an abstract idea. See *State Street Bank & Trust Co. v. Signature Financial Group Inc.*, 149 F. 3d 1368, 47 USPQ2d 1596 (Fed. Cir. 1998). In order to be tangible the result must be a real-world result.

Claims 1, 9, 10, 18, 19, and 27 merely recites the manipulation of an abstract idea and do not produce a concrete result. Claims 1, 9, 10, 18, 19, and 27 recite

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“solving independent sub-problems”, which is a mere abstract idea that does not produce real-world results. The step of “solving independent sub-problems” is based on does not produce a tangible result. The result of “solving independent sub-problems” renders an intangible form.

Claims 2-7, 11-16, and 20-25 recite subject matter already addressed by the rejection of claims 1, 9, 10, 18, 19, and 27 without curing the statutory defects; therefore the same rejection applies to these claims.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-5, 7, 9-14, 16, 18-23, 25, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jameson (U.S. Patent No. 6219649).

As per claim 1, Jameson teaches:

A method for solving a supply chain planning problem, comprising the steps of:

Decompositioning the supply chain planning problem into a plurality of independent sub-problems (see column 7 lines 45-54; where the allocation problem is divided in to simpler sub-problems. Resource allocation is a part of supply chain management.);

Forming a plurality of distributed sub-problem partitions, each of said sub-problem partitions including a plurality of related items and associated with a respective independent sub-problem of said supply chain planning problem (see column 7 lines 45-54 and column 8 lines 19-21; where the system accounts for larger sub-problems. Sub-problem partitions are defined as larger sub-problems per the specification. See specification p. 9 line 16. Further, clusters are combined to create larger clusters or larger sub-problems. The sub-problems consist of scenarios, where a scenario is a set of related events. Each scenario is an independent sub-problem.);

Loading data into a plurality of distributed database partitions, said data associated with said plurality of related items, and each of said distributed database partitions associated with a respective one of each of said distributed sub-problem partitions (see column 5 lines 35-40, column 7 line 25, column 11 lines 3-15, column 18 lines 49-56 and column 29 lines 35-57; where separate matrices contain variables for each scenario. Each matrix contains rows and columns to hold data elements. The matrices, also having a separate memory portion, are a database partitions.); and

Solving each of said plurality of said independent sub-problems by separate processes operating in parallel in a distributed database processing environment (see column 8 lines 8-25; where the sub-

problems are solved to determine the optimal allocation point. Each sub-problem is solved independently. The matrices are stored on individual machines thus allowing the matrices to be stored across several computers. A distributed database is defined as a database that be distributed to several computers.).

Jameson does not explicitly teach a method of "solving a supply chain method". However, Jameson discloses a method for resource allocation. Resource allocation is part of supply chain management, thus solving a resource allocation problem is the same as solving a supply chain management problem. It would have been obvious, at the time of the invention, for one of ordinary skill in the art to use the Jameson resource allocation method for solving supply chain problems because resource allocation is part of supply chain management. Furthermore, the intended use of a method must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

As per claim 2, Jameson discloses:

The method of Claim 1, further comprising the steps of:

Forming a plurality of clusters, each of said clusters including said plurality of related items (see column 8 lines 5-12; where optimal points are clustered and the clusters include the scenario, where scenarios are a set of related events); and

Forming said plurality of distributed sub-problem partitions from said plurality of clusters (see column 5 lines 35-40 and column 11 lines 3-15,

column 7 lines 45-54, and column 8 lines 19-21; where the system accounts for larger sub-problems. Sub-problem partitions are defined as larger sub-problems per the specification. See specification p. 9 line 16. Further, clusters are combined to create larger clusters or larger sub-problems. The sub-problems consist of scenarios, where a scenario is a set of related events).

As per claim 3 Jameson teaches the method of Claim 1, wherein the number of distributed sub-problems and database partitions is equal to the number of scenarios introduced to the allocation problem (see column 7 lines 66-67 and column 8 lines 1-8; where the optimal allocation problem is solved for each scenario. The provided example has four sub-problems). Jameson fails to teach the number of sub-problems and database partitions is equal to three. The specific example taught by Jameson has four sub-problems and database partitions. The three sub-problems recited by this invention is contained within the four taught by Jameson. In other words, 4 sub-problems and database partitions include 3 sub-problems. Further, Jameson teaches the number of sub-problems is equal to the number of scenarios to be introduced to the planning problem. Thus, the Jameson system can have three scenarios resulting in three sub-problems for a given planning problem. It would have been obvious, at the time of the invention, to one of ordinary skill in art to introduce three scenarios to the Jameson system to have the number of sub-problems and database partitions equal to three.

As per claim 4, Jameson discloses:

The method of Claim 1, wherein said plurality of related items are related by one or more pre-define relationship rules (see column 10 lines 50-68, column 11 lines 1-29, and figures 6-8; where all of the elements of a scenario are processed under pre-defined rules).

As per claim 5, Jameson teaches the method of Claim 2, wherein the forming said plurality of said clusters further comprises a step of storing said clusters (see column 18 lines 49-61; where cluster arguments and function calls are stored to increase performance of future processing by calling stored results). Jameson fails to disclose the step of forming said plurality of said clusters further comprises a step of assigning a CLUSTER_ID to each item of said plurality of related items. It is old and well-known in data management to assign an identification value to items stored in a database. The step of storing a cluster automatically gives it a CLUSTER_ID in a database row. The advantage of assigning an identification value to items stored in a database is that the item and its respective row can be more efficiently found in the database by simply querying the database for the assigned identification value. It would have been obvious, at the time of the invention, for one of ordinary skill in data management to assign an identification value to the clusters stored in Jameson's system in order to more efficiently find the clusters and their stored results.

Examiner further notes the following discussion of Official Notice taken from the MPEP:

To adequately traverse such a finding, an applicant must specifically point out the supposed errors in the examiner's action, which would include stating why the noticed fact is not considered to be common knowledge or well-known in the art. See 37 CFR 1.111(b). See also *Chevenard*, 139 F.2d at 713, 60 USPQ at 241 ("[I]n the absence of any

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demand by appellant for the examiner to produce authority for his statement, we will not consider this contention.”). A general allegation that the claims define a patentable invention without any reference to the examiner's assertion of official notice would be inadequate. If applicant adequately traverses the examiner's assertion of official notice, the examiner must provide documentary evidence in the next Office action if the rejection is to be maintained. See 37 CFR 1.104(c)(2). See also *Zurko*, 258 F.3d at 1386, 59 USPQ2d at 1697 (“[T]he Board [or examiner] must point to some concrete evidence in the record in support of these findings” to satisfy the substantial evidence test). If the examiner is relying on personal knowledge to support the finding of what is known in the art, the examiner must provide an affidavit or declaration setting forth specific factual statements and explanation to support the finding. See 37 CFR 1.104(d)(2). If applicant does not traverse the examiner's assertion of official notice or applicant's traverse is not adequate, the examiner should clearly indicate in the next Office action that the common knowledge or well-known in the art statement is taken to be admitted prior art because applicant either failed to traverse the examiner's assertion of official notice or that the traverse was inadequate. If the traverse was inadequate, the examiner should include an explanation as to why it was inadequate. (MPEP § 2144.03(C))

First, Applicant has not “specifically point[ed] out the supposed errors in the examiner's action, which would include stating why the noticed fact is not considered to be common knowledge or well-known in the art.” Applicant's broad request for references to support Examiner's statements of Official Notice amounts to nothing more than an unsupported challenge. For these reasons, assigning an identification value to a record is taken to be admitted prior art because Applicant's traversal was inadequate.

As per claim 7, Jameson discloses:

The method of Claim 1, wherein the step of solving each of said plurality of said distributed sub-problems further comprises a step of solving said plurality of independent sub-problems in parallel (see column 24 lines 61-67; where the use of multiple processors is desirably for the parallel execution of multiple instances of clusters).

As per claim 9, Jameson teaches:

A method for solving a supply chain planning problem, comprising the steps of:

Decompositioning the supply chain planning problem into a plurality of independent sub-problems (see column 7 lines 45-54; where the allocation problem is divided in to simpler sub-problems. Resource allocation is a part of supply chain management.);

Storing data associated with at least one new item in a temporary database location (see column 5 lines 35-40, column 7 line 25, column 11 lines 3-15, column 18 lines 49-56 and column 29 lines 35-57; where separate matrices contain variables for each scenario. Each matrix contains rows and columns to hold data elements. The matrices, also having a separate memory portion, are a database partitions.);

Forming at least one cluster, said at least one cluster including said data associated with said at least one item (see column 8 lines 5-12; where optimal points are clustered and the clusters include the scenario, where scenarios are a set of related events);

Merging said at least one cluster with at least one cluster associated with at least one sub-problem partition (see column 7 lines 45-54 and column 8 lines 19-21; where the system accounts for larger sub-problems. Sub-problem partitions are defined as larger sub-problems per the specification. See specification p. 9 line 16. Further, clusters are combined to create larger clusters or larger sub-problems. The sub-

problems consist of scenarios, where a scenario is a set of related events);

Loading said data into at least one database partition, said at least one database partition associated with said at least one sub-problem partition (see column 5 lines 35-40, column 7 line 25, column 11 lines 3-15, column 18 lines 49-56 and column 29 lines 35-57; where separate matrices contain variables for each scenario. Each matrix contains rows and columns to hold data elements. The matrices, also having a separate memory portion, are a database partitions.); and

Solving said at least one independent sub-problem by separate processes operating in parallel in a distributed database environment (see column 8 lines 8-25; where the sub-problems are solved to determine the optimal allocation point. Each sub-problem is solved independently. The matrices are stored on individual machines thus allowing the matrices to be stored across several computers. A distributed database is defined as a database that be distributed to several computers.).

Claims 10-14, 16, 18-23, 25 and 27 recite limitations already addressed by the rejections of claims 1-5 and 7; therefore the same rejection applies to this claim.

10. Claims 6, 15, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jameson (U.S. Patent No. 6, 219, 649) in view of Fierro (U.S. Patent No. 5983195).

As per claim 6, Jameson teaches the method of Claim 2, wherein the step of forming a plurality of distributed sub-problems partitions from said plurality of sub-problem partitions from said plurality of clusters further comprises a step of collecting the values for specific variables resulting in each distributed independent sub-problem having the same size (see column 19 line 50 – column 20 line 3; where Jameson's system is adapted to a cash management problem where each scenario or sub-problem has values specific variables). Jameson fails to disclose the step of forming a plurality of sub-problem partitions from said plurality of sub-problem partitions from said plurality of clusters further comprises a step of sizing said sub-problem partitions as close to equal as possible. Fierro teaches stabilizing the system by grading the number of sub-problems in order to an optimal number and attempting to maintain this number of sub-problems for future iterations (see column 9 line 19 – column 20 line 35). The advantage of sizing the sub-problem partitions as close to equal as possible is to maximize the efficiency of parallel processing in solving for each sub-problem, thereby increasing the efficiency of the overall system. It would have been obvious, at the time of the invention, to one of ordinary skill in the art to incorporate the advantages of sizing the sub-problem partitions as close to equal as possible as taught by Fierro to Jameson's system in order to more efficiently solve the sub-problems and increase the overall efficiency of the system, which is a goal of Jameson (see column 19 line 50 – column 20 line 3).

Claims 15 and 24 recite limitations already addressed by the rejection of claim 6; therefore the same rejection applies to this claim.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following are pertinent to the current invention, though not relied upon:

Banerjee et al. (U.S. Patent No. 6704692) teaches an improved method and system for solving a combinatorial optimization problem, such as a tracking problem, to define a plurality of associations of measurements taken of a plurality of objects is provided.

Walser et al. (U.S. Patent No. 6560501) teaches a computer-based system for aggregating and scheduling product batches includes a batch aggregation engine that allocates one or more product demands to one or more product batches having suggested sizes and suggested starting times.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kalyan K. Deshpande whose telephone number is (571)272-5880. The examiner can normally be reached on M-F 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on (571) 272-6729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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